



Status of MODIS & VIIRS LAI/FPAR



MODIS LAI/FPAR Product suite

- Collection 6
- Terra (MOD), Aqua (MYD), and Terra and Aqua (MCD)
- 8 days for MOD/MYD, 4 days for MCD
- 500m

Status and Known Issues:

- Validation at stage 2 has been achieved for the MODIS Collection 6 LAI/FPAR product.
- None

VIIRS LAI/FPAR Product suite

- Collection 1
- VNP15A2H
- 8 days
- 500m

Status and Known Issues:

- Validation at stage 1 has been achieved for the VIIRS Collection 1 LAI/FPAR product.
- None

Research Activities

- Published a comprehensive review on the greening and browning patterns observed in MODIS LAI data (Piao et al., 2019, *Nature Reviews Earth & Environ.* 10.1038/s43017-019-0001-x)
- Published a method to improve LAI/FPAR retrievals over heterogeneous vegetated pixels containing sub-pixel water bodies (Xu et al., 2020, *Remote Sens. Environ.*, doi:10.1016/j.rse.2020.111700)
- Analyzed the inter-annual stability and trends of LAI uncertainties as well as their magnitudes using multi-year (MODIS: 2001-2019, VIIRS: 2013-2019) and multi-site (445 sites) datasets. We found that the uncertainty metrics from the two products are consistent across different biome types and LAI values (R^2 ranged from 0.84 to 0.98) – (Yan et al., 2020, *Remote Sens. Environ.*, submitted to Special Issue “Terra Mission – 20 Years of Science”)
- Currently writing two manuscripts focused on exploring leaf area intra-annual seasonality and inter-annual long-term trends during past two decades (MODIS era) in the Congolese rainforest (5°N-6°S, 14°E-31°E) to address the questions: (1) what controls the seasonal pattern of leaf area in the Congolese forest, and (2) did leaf area decrease or increase over the past 20 years?